Celanese
The chemistry inside innovation™

HOSTAFORM® C 13031 ECO-B

Injection molding grade with moderate flow; about 10% higher strength; rigidity and hardness than C 13021
Chemical abbreviation according to ISO 1043-1: POM Molding compound ISO 29988- POM-K, M-GNR, 04-002 POM copolymer Easy flowing Injection molding type like C 13021, but with higher strength, rigidity and hardness over the entire permissible temperature range for HOSTAFORM; good chemical resistance to solvents, fuel and strong alkalis as well as good hydrolysis resistance; high resistance to thermal and oxidative degradation. Monomers and additives are listed in EU-Regulation (EU) 10/2011 FDA compliant according to 21 CFR 177.2470 UL-registration for all colours and a thickness more than 1.5 mm as UL 94 HB; burning rate ISO 3795 and FMVSS 302 < 75 mm/min for a thickness more than 1 mm. Ranges of applications: For molded parts with higher requirements to strength, rigidity und hardness, ranges of applications with fuel contact. FDA = Food and Drug Administration (USA) UL = Underwriters Laboratories (USA) FMVSS = Federal Motor Vehicle Safety Standard (USA).
ECO-B: Hostaform ECO-B is a POM-Copolymer with the same properties and performance as standard grades but produced with sustainability in mind. Using a mass-balance approach, biogenic feedstocks are used to offset the use of fossil-based raw materials and decrease greenhouse gas emissions. The process is audited and certified according to the ISCC Plus mass balance approach.

Product information

Part Marking Code	POM		ISO 11469

Rheological properties

Melt volume-flow rate	12	cm^3/10min	ISO 1133
Temperature	190	°C	
Load	2.16	kg	
Moulding shrinkage, parallel	2.0	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.8	%	ISO 294-4, 2577

Typical mechanical properties

Tensile Modulus	3050	MPa	ISO 527-1/-2
Yield stress, 50mm/min	68	MPa	ISO 527-1/-2
Yield strain, 50mm/min	8	%	ISO 527-1/-2
Nominal strain at break	28	%	ISO 527-1/-2
Flexural Modulus	3000	MPa	ISO 178
Compressive stress at 1% strain	31	MPa	ISO 604
Shear Modulus	1120	MPa	ISO 6721
Tensile creep modulus, 1h	2750	MPa	ISO 899-1
Tensile creep modulus, 1000h	1450	MPa	ISO 899-1
Charpy impact strength, 23°C	200	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	200	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	6.7	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	6	kJ/m^2	ISO 179/1eA
Ball indentation hardness, H 358/30	156	MPa	ISO 2039-1
Poisson's ratio	0.428		

Celanese
The chemistry inside innovation™

HOSTAFORM® C 13031 ECO-B

Thermal properties

Melting temperature, 10 °C/min	170	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	107	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	161	°C	ISO 75-1/-2
Vicat softening temperature, 50 °C/h, 50N	158	°C	ISO 306
Coeff. of linear therm. expansion, parallel	110	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.155	W/(m K)	Internal

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	UL 94
Thickness tested	1.5	mm	UL 94
Burning Behav. at thickness h	HB	class	UL 94
Thickness tested	3.00	mm	UL 94
UL recognition	yes		UL 94

Electrical properties

Relative permittivity, 100Hz	4		IEC 62631-2-1
Relative permittivity, 1MHz	4		IEC 62631-2-1
Dissipation factor, 100Hz	20	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	50	E-4	IEC 62631-2-1
Volume resistivity	1E12	Ohm.m	IEC 62631-3-1
Surface resistivity	1E14	Ohm	IEC 62631-3-2
Electric strength	35	kV/mm	IEC 60243-1
Comparative tracking index	PLC 0	PLC	UL 746A

Other properties

Humidity absorption, 2mm	0.2	%	Sim. to ISO 62
Water absorption, 2mm	0.65	%	Sim. to ISO 62
Density	1410	kg/m³	ISO 1183

Injection

Drying Temperature	100 - 120	°C	
Drying Time, Dehumidified Dryer	3 - 4	h	
Processing Moisture Content	0.15	%	
Melt Temperature Optimum	205	°C	Internal
Screw tangential speed	0.2 - 0.21	m/s	
Max. mould temperature	80 - 120	°C	
Back pressure	4	MPa	
Injection speed	slow-medium		

HOSTAFORM® C 13031 ECO-B

Characteristics

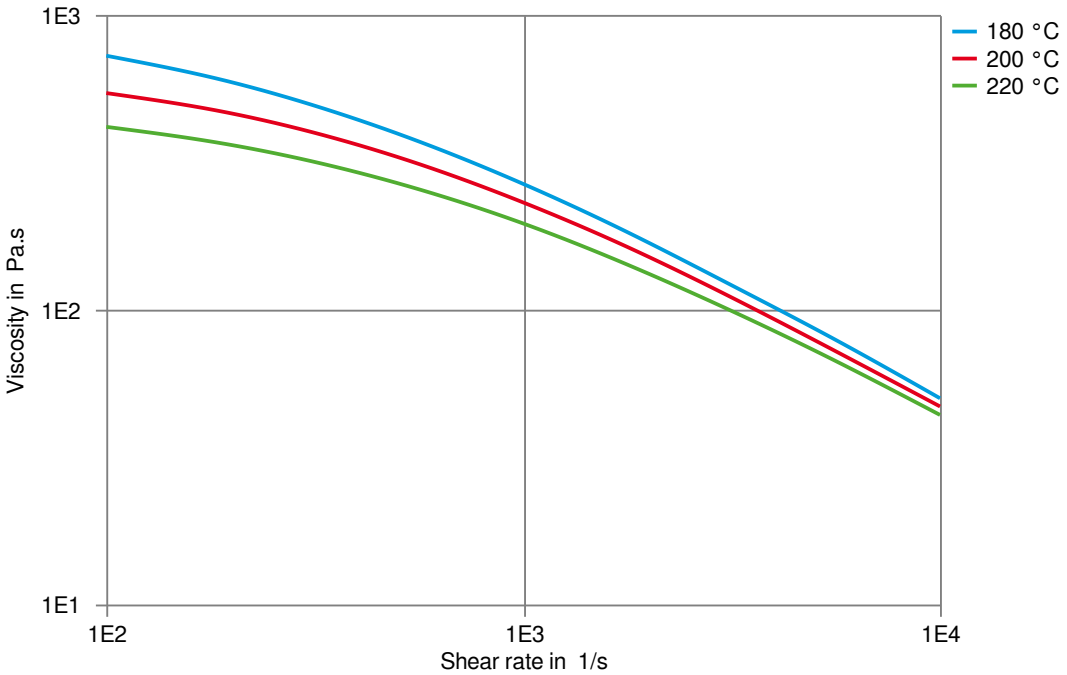
Additives	Release agent, Biobased

Additional information

Injection molding	Standard injection moulding machines with three phase (15 to 25 D) plasticating screws will fit.

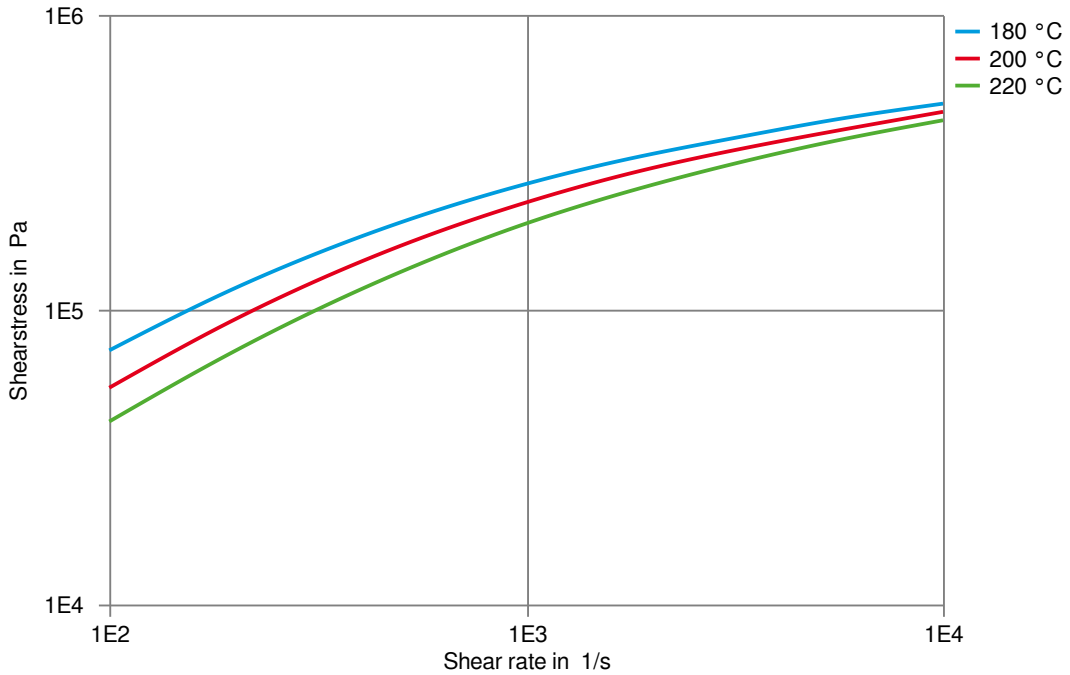
HOSTAFORM® C 13031 ECO-B

Viscosity-shear rate



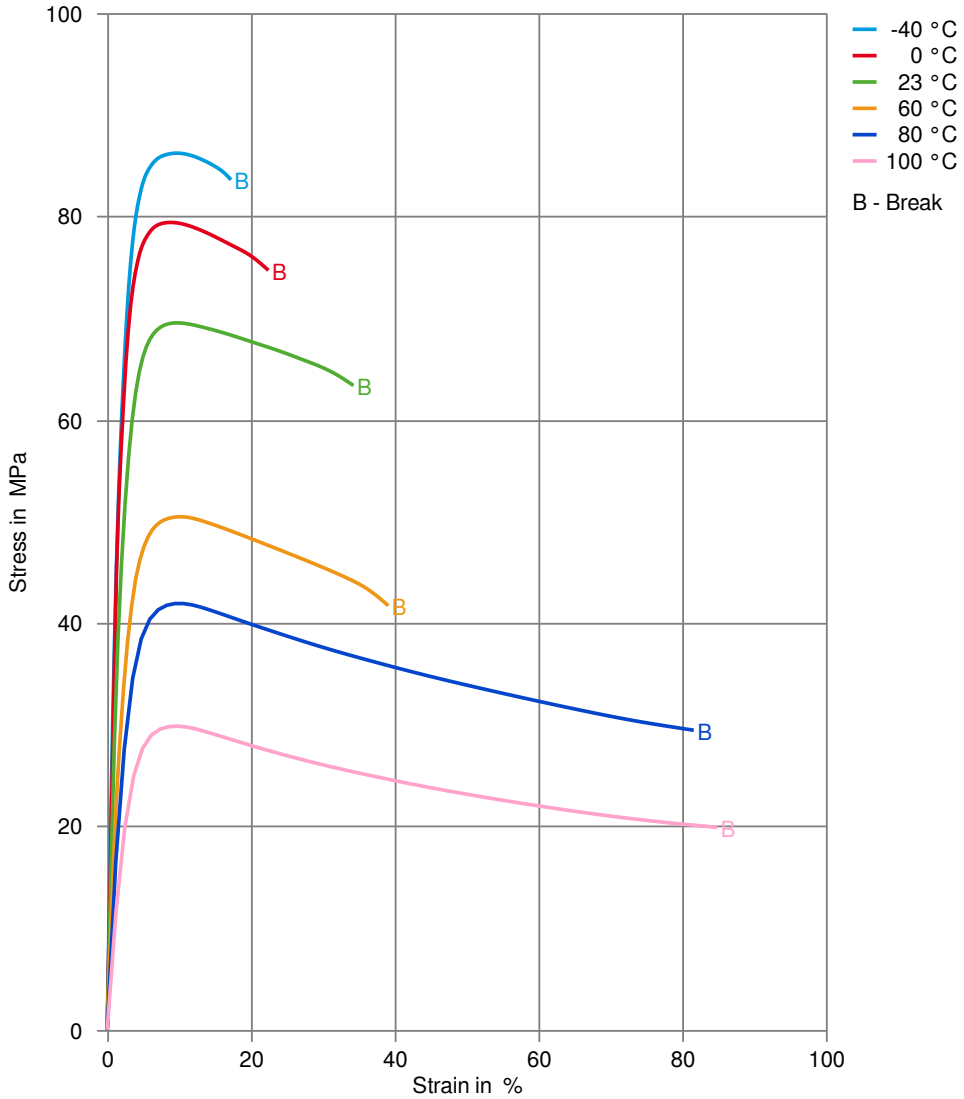
HOSTAFORM® C 13031 ECO-B

Shearstress-shear rate



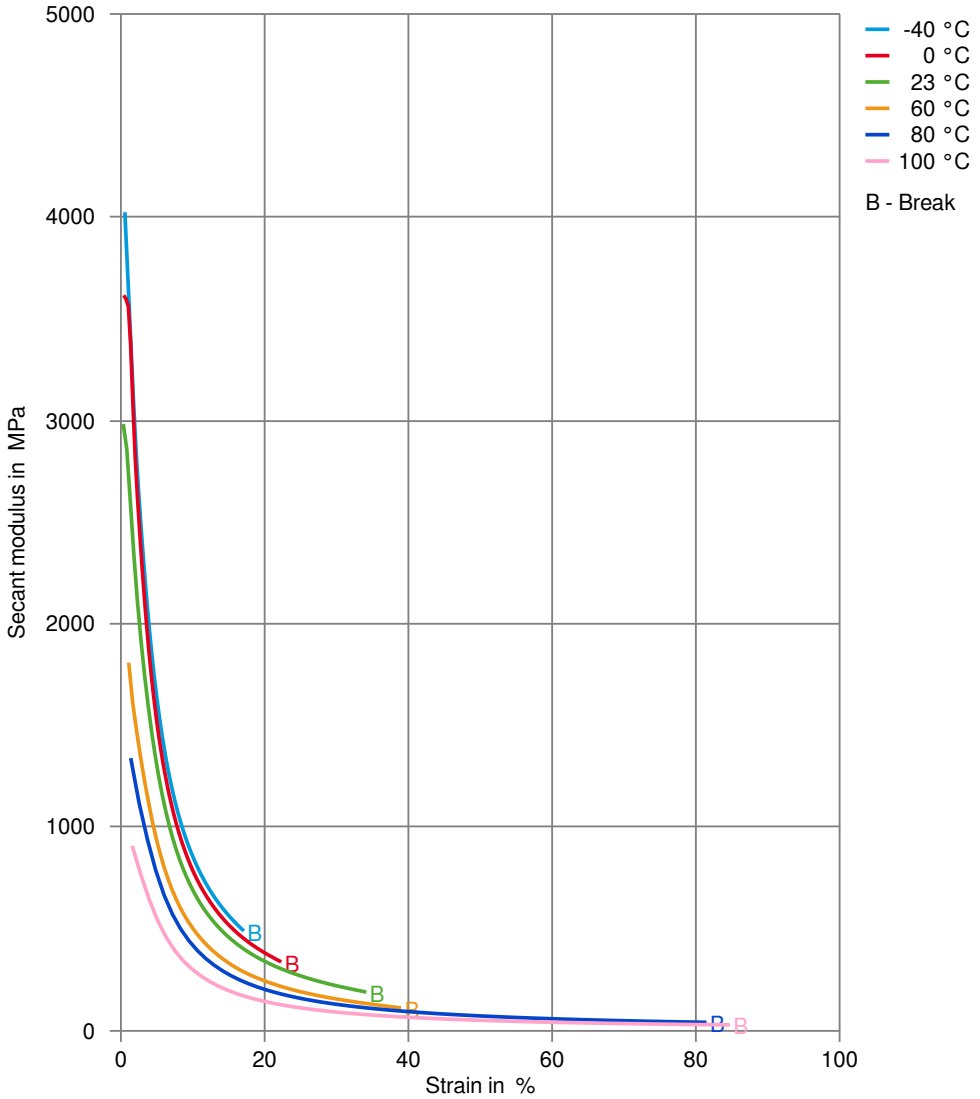
HOSTAFORM® C 13031 ECO-B

Stress-strain



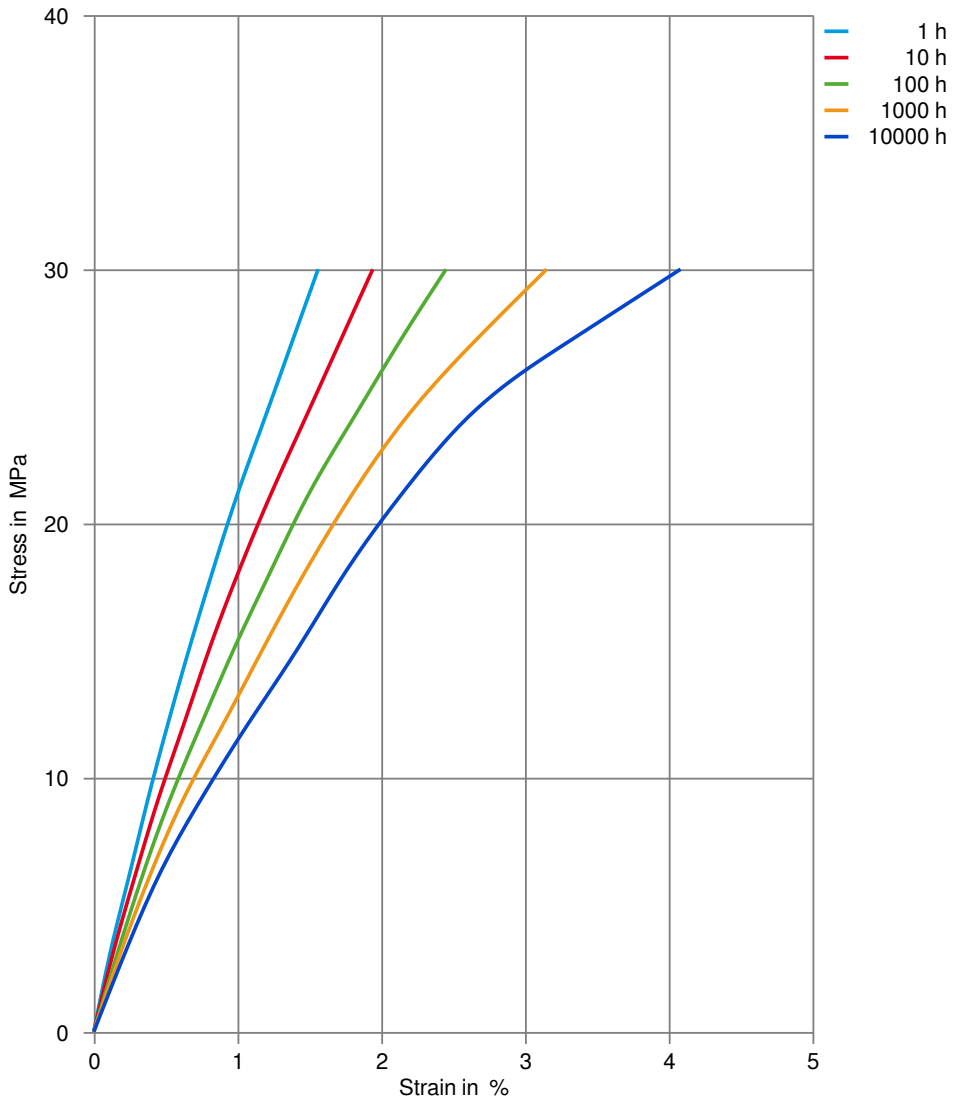
HOSTAFORM® C 13031 ECO-B

Secant modulus-strain



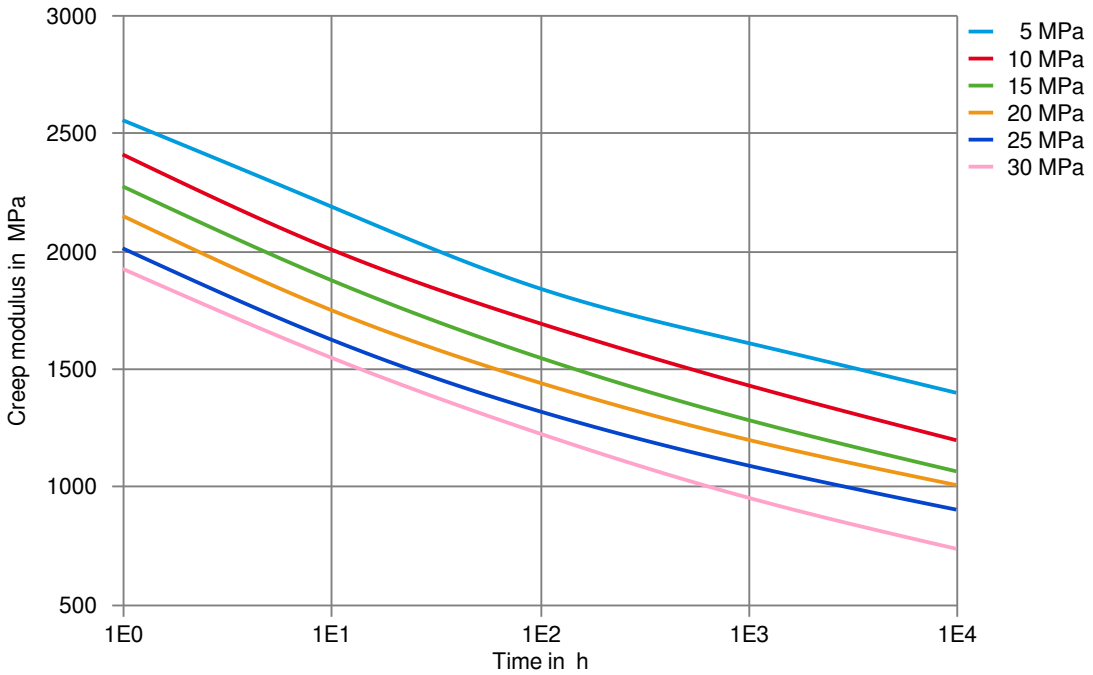
HOSTAFORM® C 13031 ECO-B

Stress-strain (isochronous) 23 °C



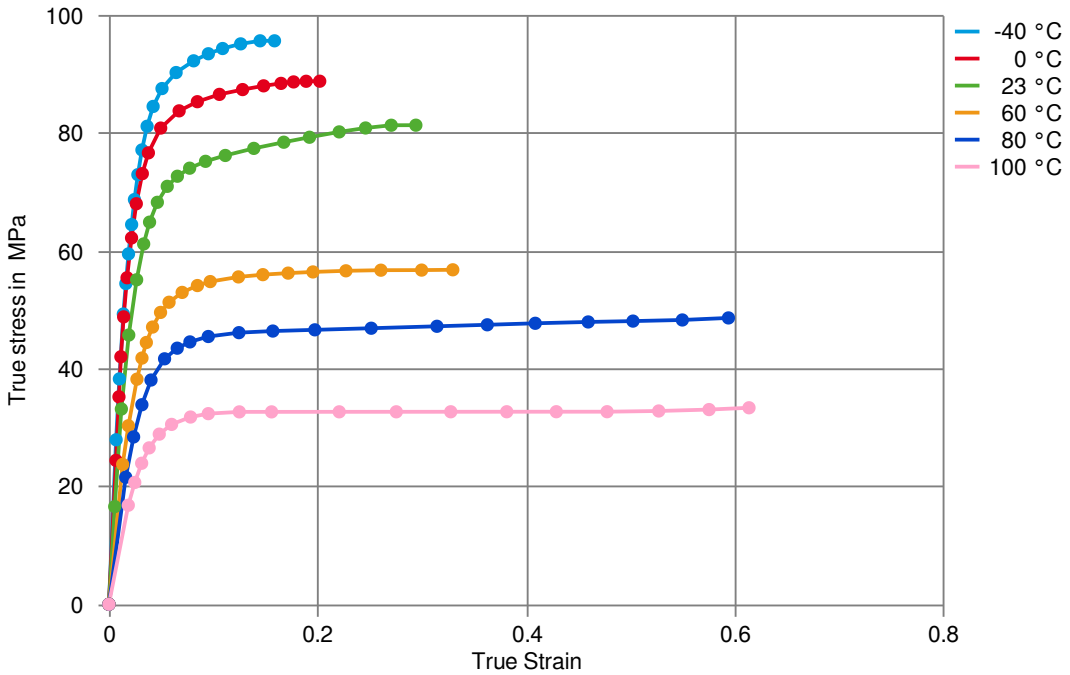
HOSTAFORM® C 13031 ECO-B

Creep modulus-time 23 °C



HOSTAFORM® C 13031 ECO-B

True stress-strain



HOSTAFORM® C 13031 ECO-B

Processing Texts

Pre-drying	Drying is not normally required. If material has come in contact with moisture through improper storage or handling or through regrind use, drying may be necessary to prevent splay and odor problems.
Longer pre-drying times/storage	The product can then be stored in standard conditions until processed.
Injection molding	Standard injection moulding machines with three phase (15 to 25 D) plasticating screws will fit.
Injection molding Preprocessing	General drying is not necessary due to low moisture absorption of the resin. In case of bad storage conditions (water contact or condensed water) the use of a recirculating air dryer (100 to 120 °C / max. 40 mm layer / 3 to 6 hours) is recommended. Max. Water content 0,2 %
Injection molding Postprocessing	Conditioning e.g. moisturizing is not necessary.

Revised: 2023-05-26 Source: Celanese Materials Database